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- (71) Applicant (for all designated States except US): STRATOS BIOSYSTEMS, LLC [US/US]; 2025 First Avenue, Market Place Tower PHB, Seattle, WA 98212 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): STOLOWITZ, Mark, L. [US/US]; 2025 First Avenue, Market Place Tower PHB, Seattle, WA 98212 (US).
- (74) Agent: LAURENCE, Kevin, B.; One Utah Center, 201 South Main Street, Suite 1100, Salt Lake City, UT 84111 (US).

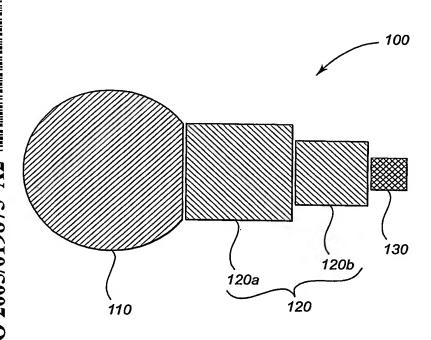
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(54) Title: ELECTROWETTING SAMPLE PRESENTATION DEVICE FOR MATRIX-ASSISTED LASER DESORPTION/ION-IZATION MASS SPECTROMETRY AND RELATED METHODS



(57) Abstract: Electro-wettable sample presentation devices in performing analytical measurements such as the detection of analytes contained within a liquid sample drop. The device comprises a virtual microwell for receiving a liquid sample drop; one or more intermediary electro-wettable at least one of which is contiguous to the microwell; and a terminal electro-wettable site which confines the deposition of analytes and matrix to within a predetermined area. The microwell is either an electro-wettable zone or a chemically-modified zone which exhibits either hydrophobic and non-adsorptive properties with respect to analytes, or hydrophobic and adsorptive properties with respect to analytes. Each of the electro-wettable sites modifies the surface of the sample presentation device between hydrophobic and hydrophilic states in response to an electrical potential

applied between a liquid sample drop and the electro-wettable site so as to direct the positioning of the liquid sample drop.

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